# WHEN COETHNICITY FAILS

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ABSTRACT

Why do communities with larger shares of ethnic and racial minorities have worse public goods provision? Many studies have emphasized the role of diversity in hindering public outcomes, but the question of causality remains elusive. The authors contribute to this debate by tracing the roots of both contemporary racial demography and public goods provision to the uneven historical expansion of the state. Focusing on new historical data from Brazil, the authors show that more remote municipalities with lower levels of state capacity in the past were more frequently selected by escaped slaves to serve as permanent settlements. Consequently, such municipalities have worse public services and larger shares of Afro-descendants today. These results highlight the pervasive endogeneity of the relationship between ethnic demography and public outcomes. The failure to account for context-dependent historical confounders raises concerns about the validity of previous findings regarding the social costs and benefits of any particular demographic composition.

## Introduction

Why do communities with larger shares of ethnic or racial minorities have worse public outcomes, such as lower public service provision?[1] To explain this empirical regularity, political scientists and economists have hypothesized the existence of a "diversity debit" or a "coethnicity advantage."[2] Despite scant evidence for a causal link between ethnic demographic patterns and socially inefficient outcomes, the sheer number of studies showing that diversity harms public goods provision, trust, and social cohesion has sufficed to convince the most skeptical reader. More recently, however, some of these findings have been challenged on empirical and theoretical grounds. On the empirical side, scholars have demonstrated how the negative effects of diversity can result from a statistical artifact that when accounted for, shows that homogeneous communities have worse public outcomes than diverse ones.[3] On the theoretical side, studies have noted the potential endogeneity of the relationship

[1] Although the empirical focus of this article is public goods and services provision, we use the term "public outcomes" to emphasize that our argument is more general and can potentially be applied to other important measures of collective well-being (e.g., human development, social trust, and conflict).
[2] Habyarimana et al. 2009.
[3] Abascal and Baldassarri 2015; Kustov and Pardelli 2018.

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between diversity and public outcomes by highlighting how both ethnic diversity and poor service provision can result from historically weak nation-states.[4]

We contribute to this literature by shifting attention to the subnational level and examining the causal underpinnings of the recently uncovered homogeneity debit. To do so, we investigate one important common determinant of local ethnic demography and public goods provision: historical levels of local state capacity. We argue that both the contemporary ethnic composition of communities and their ability to provide public services trace their origins at least in part to the distribution of local state capacity across the national territory in the past. Accordingly, the association between ethnic demography and public outcomes observed in the present does not necessarily reflect a causal relationship between these variables; rather, it may indicate that the spatial distribution of both variables has been influenced by the historical reach and the strength of the state.

In our analysis, we focus on the case of Brazil and rely on a new geocoded, historical data set of 5,505 municipalities, including a variety of racial demography, public goods, state capacity, and economic geography variables. First, we show that localities that had lower state capacity more than a century ago have worse public goods provision and larger shares of Afro-descendants today.[5] To illustrate one important channel through which historical state capacity influenced the initial geographic distribution of racial groups, we focus on the location of *quilombos* (settlements of runaway slaves). Reflecting the fact that fugitive enslaved persons had powerful incentives to select away from areas of strong state capacity, our results show that homogeneous communities of Afro-descendants were more likely to form in remote, inaccessible areas of the country. Because these hard-to-reach communities inherited weaker state apparatuses, they are less capable of providing public services than their counterparts, despite displaying comparable levels of public spending today.

Next, we examine whether the logic of race-based geographic exclusion applies broadly. We propose a more general version of our argument that incorporates a set of additional mechanisms operating beyond quilombo territories. We also investigate the more general relationships among the distribution of state capacity, public goods provision, and changes in racial demographic patterns across municipalities throughout the twentieth

[4] Wimmer 2016.

[5] Scholars have long highlighted that the state's capacity to govern can vary considerably across space (e.g., Herbst 2000; Yashar 2005). Weak state capacity across nominally governed areas may result from an incapable apparatus or from the virtual absence of state institutions.

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century. Overall, our results suggest that the contemporary disadvantage of homogeneous Afro-descendant municipalities in public goods provision is a function of both the initial selection of Afro-descendants into lower state capacity areas and of the remarkable persistence of these geographic inequalities over time. In other words, how municipal governments perform today depends critically on how these communities emerged in the first place.

These findings have implications for our understanding of the relationship between ethnic demography and public outcomes more broadly. Previous research has associated ethnic homogeneity with a host of positive outcomes, arguing that it facilitates the aggregation of public preferences, collective action, and norm enforcement.[6] More recently, scholars have also demonstrated that under certain circumstances, ethnic homogeneity can instead facilitate elite capture and thus lead to reduced public goods provision.[7] This article complements these recent findings on the homogeneity debit and proposes an alternative theoretical explanation for such patterns. We argue that the ability of different groups to tap into the potential benefits of coethnicity are strongly conditioned by whether these groups have historically benefited from or been harmed by their interactions with the state.

In summary, the direct effects of ethnic demography on public outcomes may be weaker than scholars have thought. The failure to account for past levels of state capacity and other relevant, context-specific, historical factors calls into question the strength and validity of previous findings regarding the social costs and benefits of a diverse or homogeneous ethnoracial demographic composition. In the best-case scenario, the observational analyses that have neglected historical forces and focused exclusively on present-day covariates may have overestimated the effects of ethnic demography; in the worst-case scenario, these studies may have characterized a spurious relationship as causal.

## Ethnoracial Demography and Public Outcomes

### Three Streams of Research on Ethnic Demography

The first, descriptive, question with which much of the political economy research on ethnic demography has been concerned is whether the relationship between diversity and various public outcomes is positive or negative. Accordingly, a standard approach in this literature has been to examine

[6] Habyarimana et al. 2009.
[7] Cruz, Labonne, and Querubín 2020.

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local- or national-level outcomes, such as social spending, as a function of ethnic fractionalization or similar measures that are treated as though they are exogenous, after accounting for a number of confounding variables. Following this strategy, scholars have found support for the diversity debit hypothesis across a wide variety of regions and outcomes.[8] Although this literature is understandably hesitant to make policy prescriptions, one implication of these findings is that having a homogeneous demographic structure benefits societies and their governance. The absence of potentially politically salient societal cleavages, whether based on religion, race, or language, makes cooperation among individuals easier to sustain and social cohesion more likely to emerge.[9] The ease of intergroup coordination, in turn, makes communities more inclined to make investments with long-term returns.[10]

More recently, however, the limitations of this approach have been brought to the fore. Scholars have emphasized the failure of previous work to account for the heterogeneous effects of diversity across different types of public goods,[11] units of analysis,[12] and institutional contexts.[13] Further, recent studies have questioned the adoption of the fractionalization index as the standard measure of diversity. In particular, by treating ethnic groups as equivalent, this variable fails to indicate which ones are represented in what proportions in the population and thus obscures important differences in the ways that distinct groups relate to public outcomes.[14] Altogether, what these studies have demonstrated is that even the deceptively simple exercise of determining the sign of the association between local demographic composition and public goods provision may produce contradictory findings, depending on the outcomes studied,[15] the samples considered, and the measures used.

The second, theoretical, question that scholars have grappled with revolves around the mechanisms behind the diversity debit. Why does it lead to socially inefficient outcomes? Innovative research has examined the reasons for these negative effects from theoretical and empirical perspectives.[16] But some of the empirical patterns that we observe remain unexplained. According to the in-group bias or parochial altruism mechanisms, for

[8] Dinesen, Schaeffer, and Oslashnderskov 2020; Stichnoth and Van der Straeten 2013.
[9] Easterly, Ritzen, and Woolcock 2006.
[10] Habyarimana et al. 2009.
[11] Gisselquist 2014.
[12] Gerring et al. 2015.
[13] Charnysh 2019; Lee 2018.
[14] Rushton 2008; Kustov and Pardelli 2018.
[15] Kramon and Posner 2013.
[16] Alesina, Baqir, and Easterly 1999; Habyarimana et al. 2007; Lieberman and McClendon 2013.

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instance, individuals derive utility from the well-being of a fellow group member and attach lower or even negative value to the welfare of outgroups.[17] Although these mechanisms help to clarify why more diverse communities may contribute less to the public welfare, they fail to explain why a group of ethnically homogeneous localities would systematically experience worse outcomes than diverse localities. Likewise, mechanisms, such as shared tastes and preferences or increased efficacy and findability among coethnics, elucidate why more homogeneous communities find it easier to work collectively.[18] But these same mechanisms fail to account for the systematic divergence in the outcomes of equally homogeneous communities that differ only in the identity of the majority group, further emphasizing the idea that groups are not interchangeable.

The third stream of research has focused on addressing endogeneity concerns directly.[19]Although scholars have long acknowledged the endogenous relationship of ethnic demography and public outcomes,[20] few studies have taken into account the historical processes that have influenced the distribution of ethnic groups across space, and even fewer studies have been able to identify plausibly exogenous sources of variation in ethnic demography.[21] Because groups are rarely, if ever, randomly assigned to different territories, it is thus still unclear whether the relationships uncovered in previous observational research are in fact causal. One alternative interpretation is that public outcomes themselves cause particular demographic distributions to emerge. Another possibility is that a third, omitted variable, such as the strength of the state at the national level, has influenced both contemporary ethnic diversity and public goods provision.[22] For instance, as previously demonstrated, historically capable states have been able to provide public services more effectively while simultaneously being more successful at homogenizing their populations.[23]

This article contributes to this growing literature by further investigating the extent to which the contemporary relationship between ethnic demography and public outcomes can be attributed to common antecedent factors at the subnational level. Theoretically, the unit of analysis matters because the mechanisms at play differ from those that operate across countries.[24] Empirically, the study of subnational variation requires novel

[17] Alesina and La Ferrara 2005; Kustov 2021.
[18] Habyarimana et al. 2007.
[19] Portes and Vickstrom 2011.
[20] Alesina and La Ferrara 2005.
[21] Algan, Hémet, and Laitin 2016; Charnysh 2019.
[22] Singh and vom Hau 2016.
[23] Wimmer 2016.
[24] Gerring et al. 2015.

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data, given that national-level measures, such as Andreas Wimmer's precolonial state centralization, provide no information about the distribution of state capacity across the territory.[25] Additionally, investigating subnational patterns allows us to identify more precisely the ways in which the state has influenced the initial distribution of groups across space, while keeping constant other important confounders, such as culture and institutional environment.

## The Endogeneity of Ethnic Demography

Among the various historical forces that may have simultaneously influenced subnational demographic structures and public outcomes, we focus on the territorial expansion of the state and its capacity across different areas. We argue that the willingness and ability of different ethnic groups to settle in more prosperous or better serviced areas within a given territory can be constrained by their socioeconomic status and by the type of relationship they have with the state. Although these constraints might be temporary, their effects can unfold over time in a cumulative manner. Thus, accounting for the contemporary compositional characteristics of communities or for other important proximate factors, such as average levels of social spending, might not be sufficient to address endogeneity concerns. To examine whether the association we observe between current ethnic demography and public outcomes can be attributed to more basic structural factors (see Figure 1), we explore some of the historical forces that are known to have influenced spatial settlement patterns across Brazil.

Although it is beyond the scope of this article to propose a theoretical framework that exhaustively elucidates the codeterminants of subnational ethnic demography and public outcomes, we highlight a number of factors that may play a salient confounding role. First, and among the most consequential drivers of group-specific settlement patterns, are geographic and climatic factors, which can favor certain types of economic activity and labor organization and encourage greater state penetration and population growth in some areas as opposed to others.[26] Weather and crop characteristics, for example, are significantly associated with taxation and education spending across US counties.[27] Moreover, the suitability of certain North American regions for the cultivation of cotton has been shown to explain some of the spatial variation in the historical prevalence of slavery.[28] In other words, geographic characteristics have

[25] Giraudy 2012; Soifer 2008.
[26] Michalopoulos 2012.
[27] Ramcharan 2010.
[28] Acharya, Blackwell, and Sen 2016.

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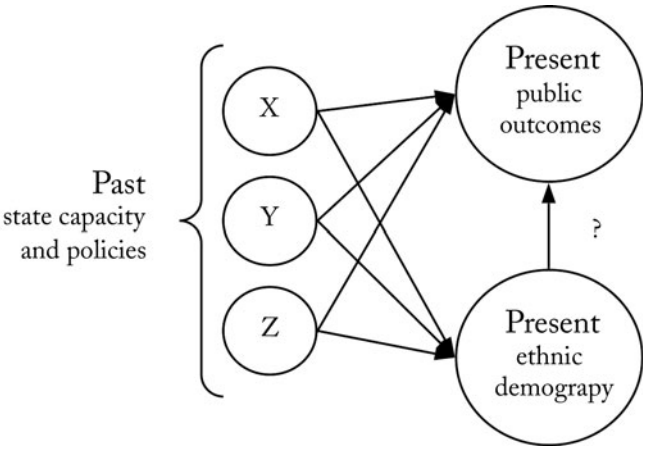



FIGURE 1
THE ENDOGENOUS RELATIONSHIP OF ETHNIC DEMOGRAPHY AND PUBLIC OUTCOMES[a]

[a] X, Y, and Z represent the multiplicity of possible historical economic and political confounding variables that affect both ethnic demography and public outcomes.

the potential to affect both subnational distribution of ethnic groups and levels of public goods provision.

Second, beyond the effects of geography and climate, state policies can differentially affect ethnic groups, engendering heterogeneous birth, death, intermarriage, and migration rates in ways that systematically relate to the strength and penetration of the state across the territory. Most prominently, the state can deliberately relocate some ethnic groups to less developed regions through explicit "demographic engineering" measures.[29] Alternatively, the adoption of less explicit directives may produce similar outcomes. Governments have been shown to rely on land-use regulation, for instance, to help property owners at the expense of the poor in ways that simultaneously intensify racial segregation and differentially affect public goods provision.[30]

More generally, even ostensibly color-blind state interventions, such as road construction, land reform, regional development programs, or tax subsidies, may disproportionately affect some groups and, as a result, exacerbate

[29] McNamee and Zhang 2019.

[30] See, e.g., Trounstine 2018. Another type of demographic engineering can result from official ethnic classification or reclassification in censuses (Loveman, Muniz, and Bailey 2012; Nobles 2000) or from administrative displacement through border changes (Posner 2004).

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preexisting ethnic and spatial disparities.[31] Whether deliberate or unintended, the overall effects of state policies are all the more consequential if we consider that even small initial compositional differences across groups (for example, in their average income) give rise to heterogeneous behavioral responses that in the long run can magnify intergroup disparities across multiple dimensions.[32] In other words, the ethnically biased effects of state policies may persist long after the policies themselves have disappeared.

This article focuses on the heterogeneous effects that the spatial reach of the state can have on different groups' settlement choices.[33] We argue that the willingness and ability of ethnic groups to settle across space is influenced by the presence and strength of the state in different regions. To the extent that, ceteris paribus, individuals of different ethnic groups have similar preferences with respect to living in well-governed areas while avoiding excessive taxation[34] and exploitation,[35] we should expect no association between local state capacity and ethnic demography. But when forced-labor institutions or official ethnic discrimination policies are in place, the choices of the disadvantaged group are severely constrained and as a result, an unbalanced territorial distribution of groups may emerge. Even in the absence of discriminatory policies and institutions, local state capacity can still correlate with ethnic demography if individuals' group membership coincides with their economic status, thus limiting their ability to move to specific areas.

In making this argument, we build on the growing literature conceiving of ethnic demography as a product of the same historical factors that make public goods provision more or less efficient in the present,[36] and we elucidate one of the channels through which this process may occur at the subnational level. Although the mechanisms underlying the association between state capacity and increased public goods

[31] State policies may also drive changes in individuals' ethnic (self-)identification, which in turn can spur shifts in observed demographic structures; Telles 2014.

[32] Abascal and Baldassarri 2015.

[33] According to Mann 1984, 189, the infrastructural power of the state rests in its ability to "actually penetrate civil society, and to implement logistically political decisions throughout the realm." Social scientists often refer to these capabilities as state capacity. Following other scholars, we conceive of state capacity as consisting of three main dimensions: administrative, coercive, and extractive (Hanson and Sigman 2021; Soifer 2008; Tilly 1975). Because among these the ability to extract constitutes a necessary condition for the effective exercise of other state functions (Hendrix 2010), our main specifications rely on taxation as our core measure of local state capacity. Nonetheless, because state capabilities across extractive, administrative, and coercive dimensions may not always covary, we present additional analyses using alternative measures in Table A4 of the supplementary material.

[34] Kleven et al. 2020.

[35] Scott 2009.

[36] Singh and vom Hau 2016; Wimmer 2016.

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provision, shown with arrow *X* in Figure 2 (a) and (b), have been explored in the literature,[37] the relationship between state capacity and ethnic demography outcomes, shown with arrow *Y* of Figure 2 (a), is less clear, as it depends on the context and level of analysis. This is what we examine next, focusing on the case of Brazil.

## Endogenous Racial Demography in Brazil

Brazil constitutes a paradigmatic example of a modern democratic state that despite not having adopted explicitly exclusionary policies in the past, has nevertheless maintained a society where the circumstances experienced by Afro-descendants are categorically worse than those experienced by whites. Unlike in the South African or US cases, Brazil's approach to racial cleavages, articulated in the 1891 constitution following the abolition of slavery in 1888, was an "integrationist whitening strategy."[38] Thus, much like indigenous groups in other parts of Latin America, Afro-descendants in Brazil were "formally equal members of society but were effectively denied equal experiences—limited access to the state … resources, land, and dignity."[39] The fact that the Brazilian state privileged specific identities and interests over others—together with its uneven spatial reach—not only approximates it to a number of other cases in Latin America, but also underlines its ability to generate theoretical insights about what causes restricted forms of citizenship to emerge in settings where individuals' rights are not explicitly molded around ethnoracial lines.

Beyond Brazil's theoretical significance, its large racial, spatial, and economic disparities also make it particularly well-suited for the study of the relationship between ethnoracial demography and public outcomes. Specifically, Brazil provides sufficient variation in the local predominance of racial groups to allow for a clear empirical differentiation between distinct types of homogeneous communities—in other words, it allows us to disentangle coethnicity from group identity. According to its last census, the country has near-equal proportions of African and European descendants (50.74 percent *negros*[40] and 47.73 percent *brancos*) and almost as many majority-white as majority-black municipalities.

[37] See, e.g., D'Arcy and Nistotskaya 2017; Fergusson, Larreguy Arbesu, and Riaño 2020; Gottlieb 2021. See also the discussion below.

[38] Lieberman 2003.

[39] Yashar 2005, 98.

[40] This common classification includes both brown (*pardos*, 43.13 percent) and black (*pretos*, 7.61 percent) census categories. Other categories include Asian (*amarelos*, 1.09 percent) and indigenous (*indígenas*, 0.43 percent).

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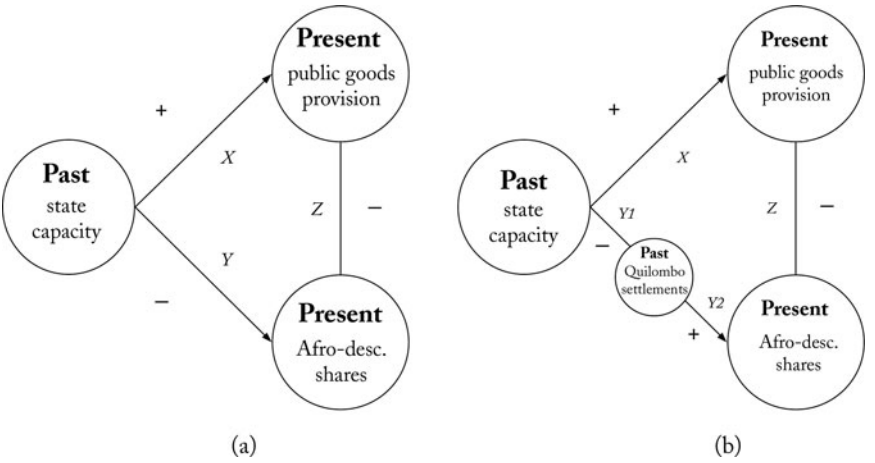



FIGURE 2
ENDOGENOUS RACIAL DEMOGRAPHY AND PUBLIC GOODS PROVISION IN BRAZIL[a]

[a] The diagrams illustrate how as a result of past state capacity (for example, via quilombos), present racial demography and public goods provision can be strongly related, even in the absence of a causal link.

Importantly, the country's decentralized structure makes the municipality an ideal unit of analysis for our purposes. The municipality constitutes the smallest politically relevant administrative unit in the country and is where decisions about local capacity investments and service provision are made. As such, municipalities offer a large number of comparable cases that share the same electoral rules, broad institutional environment, and mandates, while reflecting distinct histories of local state building. Since Brazil's independence, municipal governments have held the primary responsibility for investments in social overhead capital and public services, including the outcome variables used in our study. That these localities had to finance public goods with their own resources meant that without the ability to generate revenue effectively, they could not fulfill their mandated responsibilities.

As our previous research in Brazil shows, homogeneous Afro-descendant municipalities have worse public goods provision than either diverse municipalities or homogeneous white ones, even after controlling for levels of public spending and poverty.[41] These results suggest that coethnicity or intragroup behavioral strategies alone may not be sufficient to account for the systematic disparities we observe between equally homogeneous

[41] Kustov and Pardelli 2018.

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communities. Further, they emphasize the need to examine the determinants of spatial variation in racial demography and the extent to which the latter is causally related to public outcomes. To address these questions and test whether the racial composition of municipalities and their public outcomes have common antecedent factors, we focus on the historical variation in local state capacity across Brazil.

## Race-Based Selection into Low State Capacity Areas and Quilombos

Some of the numerous Afro-descendant communities across Brazil's territory today were born from the donations of provision grounds to enslaved persons and others arose from migratory movements following the abolition of slavery, when ex-slaves fled from plantations to take up squatting claims on frontier lands.[42] A number of these more recently formed communities emerged as a result of voluntary migration and involuntary displacement, themselves driven by a variety of forces that range from local economic growth to speculation and land grabs. In addition, many of today's majority Afro-descendant communities originated in permanent settlements for escaped slaves that were established from the seventeenth through nineteenth centuries.[43]

In this article, we focus on runaway slave settlements, quilombos (or maroon communities), and use their location as a reflection of one of the ways in which subnational variation in the capacity or even the very presence of the state may have shaped local demographic structures as well as subsequent public goods provision, as shown in Figure 2 (b). In particular, we build on the fact that these autonomous settlements were established and have persisted in hard-to-reach areas of low state presence and capacity, as shown in arrow *Y1* in Figure 2 (b), to avoid being "discovered and destroyed by punitive expeditions,"[44] much like the Southeast Asian communities analyzed by James Scott.[45] At the same time, the fact that these communities were predominantly composed of escaped slaves resulted in relatively higher shares of Afro-descendant pop-

[42] Provision grounds were plots of land unsuitable for the cultivation of commercial crops that were allotted to the enslaved to raise subsistence crops.

[43] Although every quilombo arguably represented a form of resistance to slavery, not all were established by runaway slaves. Indeed, a number of communities were formed by enslaved persons who inherited the land, others were created in territories that had been abandoned by farmers after an economic downturn, and some were established by freed slaves who purchased their own plots, invaded unclaimed lands, or received land in exchange for services rendered to the state. See Moura 2001.

[44] Bethell 1984.

[45] Scott 2009.

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ulations in the surrounding areas (*Y2*). Historically low levels of state capacity[46] have made it harder for these localities to develop their municipal apparatuses and effectively produce public goods over time (*X*). We thus argue that this and other types of race-based selection into territories of low state capacity can give rise to a strong association between contemporary racial demography and public goods outcomes (*Z*)—one that can emerge even in the absence of a causal relationship between these variables.

Importantly, one of the reasons why quilombola communities were much more prevalent in Brazil than in other countries was the nature of its frontiers:

> Although all slave societies had runaway communities, Brazil probably had the most numerous, longest lasting, and most widespread distribution of such quilombos (sometimes also called mocambos) communities in the Americas. Such settlements were in existence for well over a century, and others would be continually founded until the end of slavery in the late nineteenth century. The reasons for the intensity of quilombo activity in Brazil have a great deal to do with both the size of the slave labor force introduced into the country and the open nature of the frontier in all regions of plantation or slave activity. … Unlike the nineteenth-century United States, the slave zones of Brazil were neither blocked by a hostile Indian frontier nor surrounded by white agricultural settlements, but rather were accessible to open frontiers everywhere just a few miles from the coast.[47]

Predictably, slave escapes sparked a fierce reaction from slave owners, who would frequently resort to local militia groups and paid mercenaries to capture runaway slaves and destroy their communities. There is little question that the assistance of the state was indispensable in safeguarding slaveowners' interests. Municipal police forces and local courts played a crucial role in guaranteeing the enforcement of contracts, while local authorities conducted investigations and organized expeditions to recover runaways.[48] As a result, to increase their chances of survival, quilombola communities sought to withdraw from the state as much as possible, settling in remote regions with dense forests and limited access.[49]

[46] Specifically, here we refer to the spatial presence and strength of the state during the empire, that is, prior to the advent of the republic and the move toward greater decentralization and municipal autonomy.

[47] Klein and Luna 2009, 196.

[48] Gomes 2004.

[49] Although it made more sense for them to be isolated, cases of quilombos established in the vicinity of farms, villages, and cities are not uncommon. But these suburban quilombos necessarily had to be mobile, as Reis 1996 notes, because the proximity of urban centers facilitated denunciation and repression. Given that mobile or less remote communities were more likely to be found and destroyed by the anti-quilombos expeditions organized by landowners and local authorities, the distribution of quilombos we observe today is probably the result of both self-selection and biased attrition. That more isolated communities were more

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The significance of the quilombo mechanism notwithstanding, one may still wonder whether the logic of race-based geographic exclusion studied here applies more broadly. Although we primarily focus on former slave settlements, a more general version of our argument incorporates a set of additional mechanisms that operate beyond quilombo territories. In particular, we highlight the role of immigration, law enforcement, and access to land. These three alternative pathways suggest distinct ways in which local state capacity continued to play a central role in the spatial distribution of ethnic groups in the decades after emancipation. In the supplementary material, we elaborate on these channels of influence and provide suggestive evidence in support of their empirical relevance.

In summary, because of race-based selection into more remote regions, of which quilombos constitute but one example, we expect areas with lower state capacity in the past to display both greater shares of Afro-descendants and lower levels of public goods provision today.

## Data

We use an original data set of 5,505 Brazilian municipalities as defined by the 2000 census,[50] including contemporary and historical racial demography, public goods, state capacity, and geography variables. Given our primary goal of highlighting the historical roots of present variation in racial demography and public goods provision, these factors constitute our two main dependent variables.

To measure our first dependent variable, variation in racial demography across the country, we use individual-level census data and construct the Afro-descendant group share for each municipality.[51] For our second dependent variable, we use a composite measure of public goods provision that reflects the basic set of services that contemporary states are expected to provide: essential infrastructure (for example, piped water, electricity, and sewage), public health services, and educational opportunities.[52]

likely to survive, however, does not affect our argument about the overlap of low state capacity areas and quilombos' locations.

[50] Although our analysis relies on contemporary census data from 2000 due to increased data availability, we replicate all our main specifications using data from the 1991 and 2010 censuses and see no change in our results (see tables A9 and A10 of the supplementary material).

[51] Our main indicator is based on the sum of two (out of five) census racial categories (pardos and pretos), but results are robust to considering individual categories as separate groups. Some of our additional empirical specifications also include historical Afro-descendant shares from 1872, 1940, 1980, 1990, and 2010. Note that the 1920 census did not collect "color" or "race" information.

[52] Carlitz 2019; Centeno, Kohli, and Yashar 2017.

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Specifically, we use the percentage of the local population with access to each of these services, along with two indices reflecting the quality of locally provided healthcare and education, each comprising five subcomponents.[53]

Our first independent variable measures historical levels of local state capacity as reflected by tax revenues per capita across municipalities in the early 1920s (logged).[54] To test our argument regarding the self-selection of Afro-descendants into remote, low state capacity areas, we use the density of quilombos[55] within the boundaries of each municipality as our second independent variable. Our data set includes all the communities officially recognized as quilombola descendants.[56]

Our covariates include a set of geographic characteristics that can influence the ability of local governments to effectively provide public services. These include the size of the locality, altitude, rainfall, sunshine, distance from the coast, and distance from the capital (for summary statistics, see Table A1 of the supplementary material).[57] Because empirical specifications with historical variables are prone to spatial autocorrelation,[58] in addition to conditioning on the set of pretreatment covariates described above, we control for latitude and longitude, include state fixed effects, and report robust standard errors clustered at the level of the 1872 (or 1920) municipality as reflected by the corresponding

[53] We focus on these specific outcomes for three main reasons. First and most important, the provision of all these services rests in the hands of local government. Second, the nature of these outcomes—commonly described as universal access goods—allows us to rule out the possibility that variation in performance results from the fact that certain communities simply did not value these public services or preferred to deploy local capabilities toward different ends. Third, because state performance can vary significantly from one issue area to another, examining a number of public services allows us to capture the full range of local governmental action. For variable construction details, see Appendix B of the supplementary material.

[54] The data were obtained from Pardelli 2019. The exact year of the historical tax report is 1923. Because Brazilian municipalities have changed significantly over time, we use area interpolation methods to map past data onto contemporary boundaries. The number of Brazilian municipalities increased from 641 in 1872 to 1,304 in 1920 and to 5,505 in 2000. Adopting an area-weighting method allows us to estimate past state capacity within modern-day localities. For details, see Appendix B of the supplementary material.

[55] As specified in Decree 4887 (November 20, 2003), which adjusts Article 68 of the constitution, quilombos are defined as "ethnoracial groups, according to criteria of self-attribution, with their own historical trajectory, characterized by specific territorial relations with the presumption of Black ancestry related to the historical resistance and endured oppression."

[56] For details, see Schwartz 1992. The data were obtained from the Afro-Brazilian Communities Information System (SICAB).

[57] In addition, for details, see Naritomi, Soares, and Assunção 2012. Due to the potential for posttreatment bias, our main specifications do not include either contemporary or historical income levels as covariates. In spite of this, in Table A2 of the supplementary material, we replicate our main analyses with an additional control for municipal output per capita in 1920 (logged). These results are consistent with our main results above, although we caution that the estimates may be biased.

[58] Kelly 2019; Pepinsky, Goodman, and Ziller 2020.

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"Minimum Comparable Areas."[59] We also adopt Conley standard errors with a conservative two hundred kilometer threshold and run alternative models that account for spatial interdependence, and we see no change in the underlying results.

Last, to strengthen confidence in our results, we replicate our analyses adopting a number of alternative measures of local state capacity. Specifically, we use the number of public officials in municipalities in 1920 to capture the administrative dimension of state strength. Additionally, we use the density of railroads[60] in 1920 and a direct measure of geographic remoteness, defined as the average travel time required to reach the nearest city from a particular municipality.[61] For better presentation of our results, all variables used in the analysis were standardized between zero and one.

## Analysis and Results

As a starting point for our analysis, we replicate the results from previous research showing the disadvantage of more homogeneous Afro-descendant municipalities in providing and accessing public services. As shown in Figure 3 (and in Table A3 of the supplementary material), the share of Afro-descendants is strongly and negatively correlated with public goods provision (see in arrow $Z$ in Figure 2 (a) and (b)), explaining a staggering 23 to 56 percent of the variation in these outcome measures across Brazilian municipalities. As previously documented, a significant part of this gap across communities remains even after accounting for all standard political economy and public finance covariates, including government spending and average income levels.[62]

Our primary empirical strategy is to model present racial demography and public outcomes as a function of past state capacity while accounting for stable geographic characteristics. Our main results, presented in Table 1, show that tax revenues per capita in 1923 (our measure of fiscal capacity) are strongly associated with increased public goods provision[63] and lower Afro-descendant shares across Brazilian municipalities today. In particular,

[59] Ehrl 2017.

[60] Although this variable captures the relative penetration of state infrastructure across the country, it may be more sensible to view it as an output of state performance rather than state capacity per se.

[61] The advantage of this measure, adapted from Weiss et al. 2018, is that it is based on new digital maps that take into account a number of salient geographic attributes in addition to distance, including roads, railways, rivers, bodies of water, land cover types, and topography. The disadvantage is that because it is based on present maps, it is more likely to be endogenous to past public outcomes.

[62] Kustov and Pardelli 2018.

[63] Table A4 of the supplementary material shows the results for each public good component separately.

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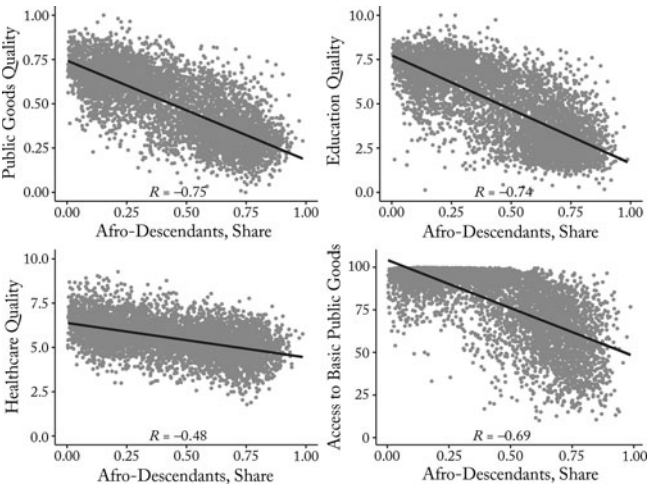



FIGURE 3
THE HOMOGENEITY DEBIT OF AFRO-DESCENDANT MUNICIPALITIES IN BRAZIL[a]

[a] Each dot represents a municipality in 2000. For variable descriptions, see the supplementary material.

TABLE 1
PRESENT PUBLIC GOODS OUTCOMES AND RACIAL DEMOGRAPHY AS A FUNCTION OF PAST STATE CAPACITY[a]

| | *Public Goods, 2000* | | *Afro-Descendants Share, 2000* | |
|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* |
| Fiscal capacity, 1923 | 0.770*** | 0.144*** | −0.937*** | −0.115** |
| | (0.085) | (0.025) | (0.121) | (0.038) |
| State FE | no | yes | no | yes |
| Geographic controls | no | yes | no | yes |
| Observations | 5417 | 4932 | 5457 | 4928 |
| Adjusted $R^2$ | 0.221 | 0.804 | 0.189 | 0.785 |

**$p < 0.01$, ***$p < 0.001$; clustered standard errors in parentheses

[a] All models are OLS regressions based on original data. All models are tested for spatial-autocorrelation, and the adoption of Conley standard errors does not alter the obtained results. For variable descriptions, see the supplementary material.

local taxes per capita one hundred years ago alone explain approximately 19 to 22 percent of the variation in these contemporary outcomes.[64]

[64] These estimates likely constitute a lower bound, given that our historical variables are less spatially disaggregated than contemporary ones due to changes in administrative boundaries over time.

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Furthermore, these relationships persist even after we account for state fixed effects and a range of geographic factors. Overall, this analysis supports the idea of past state capacity as a common antecedent factor predicting present-day demographic structures and public outcomes, as illustrated in arrows *X* and *Y* in Figure 2 (a), and points to the endogeneity of the relationship between these variables.[65]

We next use a number of alternative measures of local capacity reflecting nonfiscal aspects of state strength, including its administrative and infrastructural dimensions, as well as a measure of its geographic penetration across the territory. The first specification uses the size of the state's bureaucratic apparatus across municipalities in 1920 as a dependent variable. The second and the third models adopt the number of railroads within each municipality and geographic remoteness (reverse coded), respectively, as alternative proxies for local state capacity. As Table A5 of the supplementary material indicates, although some of the estimates are slightly weaker, overall our results remain substantively unchanged. Municipalities that had fewer public officials and less accessible territories one hundred years ago have greater shares of Afro-descendants in the population and worse public outcomes today.

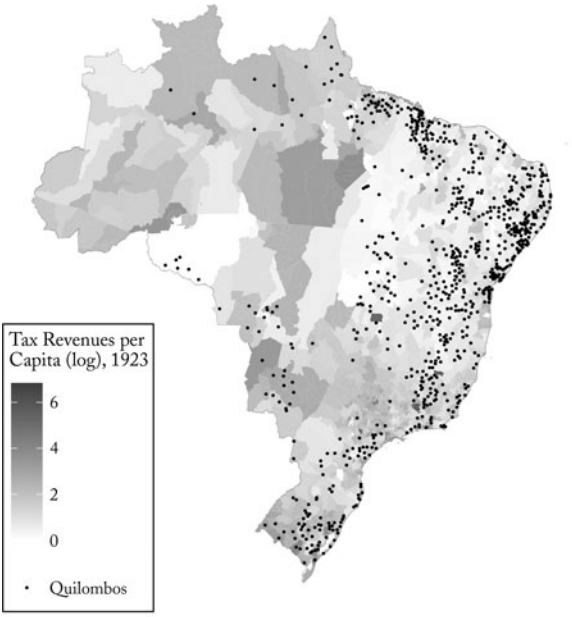
Although spatial variation in state capacity may have differentially influenced the demographic trajectories of ethnic groups through a host of mechanisms (see below), we focus on one in particular: the formation of quilombola settlements across the country. Specifically, as stated above, we hypothesize that some part of the association we observe between public goods provision and Afro-descendant shares today stems from maroon communities self-selecting into hard-to-reach areas where the state's capacity was minimal, as shown in Figure 4 (a) and (b).

We first test whether the location of quilombola settlements is associated with lower levels of local capacity in the past, as shown with arrow *Y1* in Figure 2 (b). Past levels of local capacity are measured by tax revenues in the early 1920s, the earliest point in time for which we have spatially disaggregated data and full national coverage. The simple bivariate correlation between these variables is −0.22. As indicated in Table 2, a negative and statistically significant relationship continues to hold after we include state fixed effects and account for a variety of geographic factors.

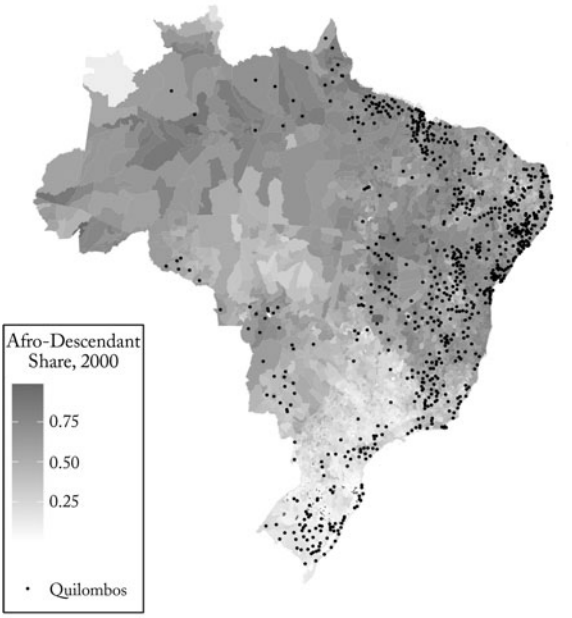
We next examine whether municipalities with a higher density of quilombos have greater shares of Afro-descendants in the population today,

[65] Note that our argument does not rely on the assumption that past state capacity is exogenous. In fact, subnational variation in the capacity of the state is likely influenced by other historical and geographic forces. What matters for our argument is that it constitutes one of the common antecedent factors for both contemporary racial demography and public goods provision.

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Fiscal Capacity and Quilombos
(a)




Afro-Descendant Share (2000) and Quilombos
(b)

FIGURE 4
PAST STATE CAPACITY, LOCATION OF QUILOMBOS, AND RACIAL DEMOGRAPHY

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TABLE 2
QUILOMBOS AND PAST STATE CAPACITY[a]

| | *Fiscal Capacity, 1923* | |
|---|---|---|
| | *(1)* | *(2)* |
| Quilombo presence | −0.115*** | −0.042** |
| | (0.024) | (0.015) |
| State FE | no | yes |
| Geographic controls | no | yes |
| Observations | 5505 | 4971 |

**$p < 0.01$; ***$p < 0.001$; clustered standard errors in parentheses

[a]All models are OLS regressions based on original data. All models are tested for spatial-autocorrelation, and the adoption of Conley standard errors does not alter the obtained results. For variable descriptions, see the supplementary material.

TABLE 3
QUILOMBOS AND PRESENT SHARES OF AFRO-DESCENDANTS[a]

| | *Afro-Descendants Share, 2000* | |
|---|---|---|
| | *(1)* | *(2)* |
| Quilombo presence | 0.545*** | 0.098*** |
| | (0.058) | (0.021) |
| State FE | no | yes |
| Geographic controls | no | yes |
| Observations | 5457 | 4928 |

***$p < 0.001$; clustered standard errors in parentheses

[a]All models are OLS regressions based on original data. All models are tested for spatial-autocorrelation, and the adoption of Conley standard errors does not alter the obtained results. For variable descriptions, see the supplementary material.

as shown with arrow *Y2* in Figure 2 (b). The bivariate correlation between these variables is positive (0.23) and remains strong even after we account for the full set of covariates (see Table 3). These results suggest that Brazilian municipalities with more quilombos were less likely to have strong state apparatuses in the past and have a systematically different demographic composition today than their counterparts. To further corroborate these findings, we also examine the association between the location of quilombo settlements and both the proportion of Afro-descendants and a binary measure indicating the presence of state officials across the territory in 1872, sixteen years before the abolition of slavery (see Table A6 of the

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supplementary material). Although the data used in these specifications are somewhat coarser and more prone to measurement error, they show the same patterns observed in previous models.

### Race-Based Selection beyond Quilombos

One important question concerns the extent to which the quilombos mechanism explains the correlation we observe between demography and public outcomes in the full sample of municipalities. On the one hand, it is possible that our data only capture quilombos that had sufficiently high levels of social cohesion or organizational capacity to seek official certification. In this case, our results may underestimate the role of past settlement choices in the broader sample of Afro-descendant communities. On the other hand, it is also possible that only those quilombos that encountered particularly critical challenges to their survival sought recognition from the state in an attempt to ameliorate their situation. If this is the case, our results may instead overestimate the detrimental effects of self-selection into remote areas. Similarly, if we consider that receiving official recognition as a quilombo allows communities to reach better economic outcomes,[66] our results may underestimate the strength of the association between racial demography and public outcomes in the broader sample. Alternatively, if quilombola communities have taken measures to resist urbanization and incorporation by the state, certification may be associated with particularly low levels of public goods provision, making our findings biased in the opposite direction.

In practice, our data likely include cases of all these different trajectories, the relative prevalence of which cannot be easily ascertained. But because we argue that maroon settlements constitute only one of the channels through which past state capacity has influenced local demographic structures, extending our analysis beyond quilombola communities should yield similar results. We therefore replicate Table 1 in Table A7 of the supplementary material by excluding municipalities with quilombos altogether. As the latter table shows, although the estimates in these models are somewhat smaller, our substantive findings remain unchanged.

To sustain and illustrate the broader spatial and temporal applicability of our argument beyond the quilombos channel, in Appendix C of the supplementary material, we explore three additional mechanisms through

[66] As Lyons 2011, 118, emphasizes, "Recognition as a quilombo is the precursor for services like roads, water, sanitation, education, and health care; becoming a quilombo bears the hope of being distinguished among the myriad poor, rural communities throughout Brazil in the eyes of mayors, municipal councils, government foundations, and non-government organizations."

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which local state capacity may have influenced demographic patterns in Brazil: (1) promotion of European immigration, (2) selective use of law enforcement, and (3) restriction of access to land. We next investigate whether these channels are empirically relevant. Table C1 shows that local state capacity in the early 1920s is in fact associated with the concentration of immigrants in the population, size of the coercive state apparatus, and average land price (per acre) across municipalities at that time. Table C2, in turn, shows that each of these variables has a strong negative association with the contemporary share of Afro-descendants in the population. Together, these results provide suggestive evidence that municipalities that were more capable in the past attracted more immigrant workers, displayed higher land prices, and sustained larger repressive apparatuses, which in turn seem to also have hampered the settlement of Afro-Brazilians in these localities over time.[67]

Finally, one could still argue that other, more fundamental, historical factors have affected both state capacity and racial demography. In particular, the local prevalence of slavery may have influenced the strength of the state across localities.[68] Although this line of reasoning would still be consistent with our argument regarding the endogenous association between ethnic demography and public outcomes, it might lead to a different interpretation of the causal pathways at work. We consider this possibility in detail in Appendix D of the supplementary material, using 1872 census data on the share of free and enslaved Afro-descendants across municipalities.[69] These results suggest that the local prevalence of slavery fails to be consistently associated with subsequent demographic and public goods outcomes.

## Persistence of State Capacity

A growing empirical literature has demonstrated that historical institutions play an important role in determining the quality of contemporary public administration.[70] Specifically, scholars have shown that differences in the stock of fiscal capacity acquired by states in the past has a strong

[67] Although it is common for the mechanisms of reproduction to differ from the generative mechanisms that give rise to specific outcomes, in our case they all have one thing in common: each is inevitably and inextricably associated with the reach of the state and its capacity to implement political decisions throughout the territory. For further discussion, see Appendix C of the supplementary material.

[68] Suryanarayan and White 2021.

[69] Even though the slave trade ended in 1850, slavery lasted until 1888. Due to an active level of manumission and self-purchase arrangements, approximately 75 percent of Afro-descendants (or 43 percent of Brazil's total population) were free by the time the country's first census was conducted in 1872. By comparison, only 6 percent of African Americans in the US south were free prior to emancipation; Schwartz 1992.

[70] Becker et al. 2016; Charron, Dahlström, and Lapuente 2012; Dincecco 2017.

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lingering effect on contemporary tax outcomes.[71] In Table A8 of the supplementary material, we confirm empirically the implied association between past and present levels of local capacity ($R = 0.52$) across Brazilian municipalities, using as outcomes taxes per capita and an indicator of whether municipalities have a cadastral map of real estate properties. Tables A9 and A10 of the supplementary material replicate these results using fiscal data from 1985 and census data from 1991 and 2010. This observed temporal persistence, especially in light of Brazil's changing political and economic conditions over the last century, raises the question of which mechanisms may have been at work in this particular case.

Most path-dependent arguments call attention to the factors that establish certain directions of change and foreclose others in a way that shapes long-term trajectories. The role of timing and sequencing, in particular, has often been evoked to explain the existence of different institutional paths.[72] Most important for our purposes, Michelle D'Arcy and Marina Nistotskaya argue that the key to understanding contemporary variation in state performance is the timing of democratic transitions.[73] If democratization happens after a certain level of institutional capacity has been attained, democracy enables states to further extend bureaucratization, taxation, and public goods provision. By contrast, if it takes place before a strong administrative apparatus is established, democracy impedes rather than promotes additional state development. To develop the ability to monitor and punish free-riding, states must be able to override the welfare-undermining preferences of individuals, which can only happen before states become responsive to citizens' preferences. Thus, if democracy precedes sufficient bureaucratization, the state remains trapped in an equilibrium of low effectiveness. In the case of Brazil, the effect of timing and sequencing may thus have been reflected in the differential influence of democracy on the ability of high- and low-capacity municipal governments to strengthen their apparatuses over time.

Besides considering the role of timing and sequence, demonstrating path dependence also requires spelling out its self-reinforcing dynamics.[74] In particular, electoral mechanisms have often been highlighted as important channels through which state capacity equilibria may persist over time. Key to these arguments is the idea that citizens' expectations about the state shape the strategic choices of politicians, which in turn

[71] D'Arcy and Nistotskaya 2018.
[72] Cyr and Mahoney 2012.
[73] D'Arcy and Nistotskaya 2017.
[74] Bennett and Elman 2006; Beyer 2010; Pierson 2004; Vergne and Durand 2010.

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perpetuate specific outcomes. Jessica Gottlieb and Florian Hollenbach,[75] for instance, argue that in settings where fiscal capacity is low, citizens have little reason to believe that they can benefit from a tax increase and, as a result, are less likely to support greater spending and the expansion of fiscal capacity.[76] To avoid being punished at the ballot box, incumbents in low-capacity settings thus prefer to target benefits at narrow constituencies and refrain from investing in developing state capabilities. Conversely, when capacity levels are high, voters who benefit from public goods favor increased taxation and spending, creating an electoral incentive that encourages further capacity expansion. These incentives lead to two distinct equilibria: a low-capacity one in which incumbents do not strengthen state capabilities and continue to favor personalistic exchanges, and a high-capacity one in which incumbents expand revenue-raising capabilities and spend more on broad-based public services.[77] Importantly for our argument, this research shows that this strategic behavior helps to explain the stickiness of weak fiscal capacity across Brazilian municipalities.

Table A11 of the supplementary material provides suggestive evidence that is line with these mechanisms. Using data from the nationally representative 2005 Latinobarómetro survey, we investigate whether residents of historically capable municipalities report higher levels of confidence in their local government and express more positive attitudes about taxation today. If living in localities with historically higher capacity is indeed reflected in improved experiences with the state, we expect residents of these municipalities to be more likely than those in less capable municipalities to trust the local government to employ public resources effectively. Consequently, citizens should also be more willing to support tax increases, enhancing the incentives of politicians to invest in fiscal capacity. In line with these expectations, the results show that past capacity levels (measured circa eighty years before the survey) have a significant positive association with individuals' tax attitudes[78] and reported confidence in the local government today.

[75] Gottlieb and Hollenbach 2021.

[76] Kruks-Wisner 2018, 48, also shows that conditions marked by a "felt absence of the state" can inhibit claim-making by reinforcing low expectations and demobilizing citizens. Other scholars have instead highlighted that the formation of strong social institutions among settlers of remote areas may be responsible for their increased resistance to the extension of state power; Foa and Nemirovskaya 2016.

[77] A related argument in the literature posits that increased taxation may itself improve government performance by raising citizens' accountability demands. Previous work has shown that taxation makes voters more willing to exert effort to monitor government performance and more inclined to enact costly sanctions against incumbents; Martin 2016; Paler 2013.

[78] Residents of historically more capable areas are more likely to consider taxes as "too low."

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Although this analysis does not rule out other potential explanations for the path-dependent nature of local capacity, it offers suggestive evidence in support of a plausible mechanism of persistence and highlights an important implication of our findings regarding the self-selection of groups into remote areas; if left to their own devices, low-capacity localities may find it difficult to depart from a trajectory of noninvestment.[79] As the concrete experiences of individuals condition their expectations of state effectiveness, they make specific institutional configurations self-enforcing. In this sense, contemporary variation in the strength of local state institutions and the level of public goods provision is at least partially rooted in the cumulative effects of long-term interactions between citizens and the state.

## Persistence of Race-Based Selection

Whereas scholars have long explored and empirically demonstrated the path-dependent nature of state capacity, the question of whether racial demographic structures persist over time remains less clear. In this section we provide some preliminary evidence regarding changes in the racial distribution of municipalities across Brazil from 1940 to 2000 and the extent to which they relate to prior levels of state capacity.

Table 4 replicates the demographic part of the analyses in Table 1 for the period 1940–2000. As the results illustrate, the share of Afro-descendants is consistently negatively correlated with prior levels of local state capacity, as captured by tax revenues per capita in 1920, across all available time periods.[80] These associations suggest that despite potential changes in self-identification[81] and population mobility, the spatial coincidence between Afro-descendant majorities and weaker municipal capacity has persisted over time.

Along with the general population growth over the last century, the share of Afro-descendants in the median municipality has increased

[79] The specifications in tables A8, A9, and A10 of the supplementary material show that the association between past capacity and present outcomes has become progressively weaker in recent decades, suggesting the presence of a dissipation mechanism. Among such mechanisms, we highlight the potential role of a system of intergovernmental fiscal transfers adopted by the federal government in the late 1980s, which seems to have initiated a process of national convergence in local state capacity.

[80] Not all census years provide information on individuals' "color" or "race."

[81] Racial boundaries in Brazil are commonly described as fluid. But previous research has shown that this fluidity is in fact confined to movement between "black" and "mixed race" categories (Andrews 1991; Magno de Carvalho et al. 2004; Telles 2002). Because our analyses focus on the white-nonwhite cleavage, fluctuations in self-categorization should not affect our findings. Nevertheless, in Appendix E of the supplementary material, we further investigate this issue empirically and find no systematic biases in racial self-classification among individuals residing in historically less capable municipalities.

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TABLE 4
RACIAL DEMOGRAPHY AS A FUNCTION OF PAST STATE CAPACITY (1940–2000)[a]

| | *Afro-Des. Share, 1940* | | *Afro-Des. Share, 1980* | | *Afro-Des. Share, 2000* | |
|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
| Fiscal capacity, 1923 | −0.749*** | −0.065 | −1.114*** | −0.135** | −0.937*** | −0.115** |
| | (0.123) | (0.049) | (0.136) | (0.050) | (0.121) | (0.038) |
| State FE | no | yes | no | yes | no | yes |
| Geographic controls | no | yes | no | yes | no | yes |
| Observations | 5503 | 4970 | 5505 | 4971 | 5457 | 4928 |
| Adjusted $R^2$ | 0.118 | 0.733 | 0.192 | 0.783 | 0.189 | 0.785 |

**$p < 0.01$; ***$p < 0.001$; clustered standard errors in parentheses
[a]All models are OLS regressions based on original data. For variable descriptions, see the supplementary material.

from 34 percent in 1940 to 49 percent in 2000. Nonetheless, during the same period, 25 percent of municipalities did not experience much change in their racial demographic composition and 23 percent saw a relative decrease in their Afro-descendant shares. If our argument is correct, we should expect municipalities with higher levels of state capacity in the past to experience lower growth or even an outright decline in the share of Afro-descendants over time. To measure demographic change, we follow the existing literature[82] and construct two separate variables indicating the absolute and the relative change in the share of the Afro-descendant population from 1940 to 2000 across municipalities. Whereas the former variable simply denotes the difference in Afro-descendant shares between 1940 and 2000 in a given municipality, the latter captures the relative growth rate of Afro-descendants as a fraction of the group's baseline share.[83] To account for different baseline Afro-descendant shares in 1940, we also include those as a control variable in some specifications, along with all the geographic controls used in our main specifications.

As Table 5 shows, both the absolute and the relative change in the proportion of Afro-descendant populations from 1940 to 2000 are negatively associated with state capacity levels in 1920. As a robustness

[82] Hill, Hopkins, and Huber 2019.
[83] For example, if two municipalities had, respectively, 10 percent and 70 percent of Afro-descendants in 1940 and 20 percent and 80 percent in 2000, the absolute change would equal 10 percent (0.2 – 0.1 and 0.8 – 0.7) in both cases. The relative change would be 100 percent in the first case ( $\frac{0.2-0.1}{0.1}$ ), but 14 percent in the second ( $\frac{0.8-0.7}{0.1}$ ).

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TABLE 5
RACIAL DEMOGRAPHIC CHANGE AS A FUNCTION OF PAST STATE CAPACITY (1940–2000)[a]

| | *Abs. Δ (1940–2000)* | | | *Rel. Δ (1940–2000)* | | |
|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
| Fiscal capacity, 1923 | −0.195*** | −0.049 | −0.093** | 0.214 | −0.601+ | −0.824* |
| | (0.047) | (0.043) | (0.032) | (0.350) | (0.361) | (0.347) |
| Afro-descendants %, 1940 | | | −0.672*** | | | −3.432*** |
| | | | (0.023) | | | (0.218) |
| State FE | no | yes | yes | no | yes | yes |
| Geographic controls | no | yes | yes | no | yes | yes |
| Observations | 5455 | 4927 | 4927 | 5455 | 4927 | 4927 |
| Adjusted $R^2$ | 0.018 | 0.276 | 0.569 | 0.0002 | 0.204 | 0.339 |

+$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; clustered standard errors in parentheses

[a]All models are OLS regressions based on original data. For variable descriptions, see the supplementary material.

check, we also examine the relationship between past state capacity and more proximate demographic changes (1940–1980), and obtain similar results (see Table A12 of the supplementary material).

Overall, these analyses suggest that besides influencing the initial settlement choices of different groups, local state capacity has also been associated with subsequent changes in the demographic composition of municipalities over time. This path-dependent nature of local demographic structures together with the stickiness of local state capacity may help to elucidate the persistent negative association between shares of Afro-descendants and public outcomes in Brazilian municipalities over time.

## DISCUSSION: GENERALIZABILITY OF THE ARGUMENT

It is clear from the preceding analysis of Brazilian municipalities that the spatial distribution of racial groups and past state capacity are intimately related, with the latter accounting for a substantial part of the effect of demographic patterns on contemporary public outcomes. Although we do not claim that the mechanisms we focus on here are widespread, we believe that the idea of differential group-based incentives to select away from or toward the grip of the state is generalizable. Therefore, we now consider how our argument regarding the endogeneity of ethnic

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demography to state capacity may apply to other types of outcomes, different contexts, and levels of analysis beyond subnational units.

First, although this article focuses on the association between state capacity and public goods provision in particular, our argument regarding the endogeneity of ethnic demography may be extended to other public outcomes. One thesis that has attracted considerable attention concerns the detrimental effects of ethnic diversity on social capital, trust, and cohesion.[84] But recent evidence has shown that prior investments in state capacity can promote persistently higher levels of social capital.[85] Therefore, to the extent that ethnic diversity is itself influenced by state capacity, as demonstrated here, its previously uncovered effects on social capital may be spurious.

Second, if the logic of our argument is correct, it should be applicable to any country with significant local variation in state capacity where (1) the population is differentiated along ethnic or other visible and sticky descent-based categories,[86] (2) strong status differences between groups coincide with durable socioeconomic and political inequalities,[87] and (3) groups have differential incentives to avoid areas of strong state capacity—that would otherwise have been preferable—even if only temporarily. Given the historical legacies of colonialism, slavery, feudalism, and caste that have prompted the emergence of hierarchical distinctions among ethnic groups around the world, we believe that the overlap of geographic and racial inequalities we observe in Brazil is far from unique.[88]

[84] Alesina and La Ferrara 2002 find that racial fragmentation has a significant negative effect on the proportion of trusting respondents in the United States, even after controlling for inequality and individual characteristics. Stolle, Soroka, and Johnston 2008 report a negative association between diversity and social trust, and Fieldhouse and Cutts 2010 find a negative effect of neighborhood diversity on social capital (although they highlight that it is only a small fraction of the negative effect of poverty). For a recent meta-analysis corroborating these findings, see Dinesen, Schaeffer, and Oslashnderskov 2020. For critical reviews of this literature, see Abascal and Baldassarri 2015; Portes and Vickstrom 2011.

[85] Jensen and Ramey 2020.

[86] See, e.g., Chandra 2006. As noted above, the conditions that account for the emergence of an association between racial demography and state capacity may not necessarily coincide with the factors that explain the persistence, of this relationship over time. Nevertheless, that identity categories are visible and sticky matters for persistence, given that other cleavages may be more malleable and susceptible to state-driven assimilation and homogenization, renders unobservable any empirical association between state capacity and group markers. Similarly, that the state privileges certain identities over others and that groups are ranked in society also matter for persistence, as status differences are often accompanied by discrimination, which itself impedes the dissipation of between-group disparities. And to the extent that weak capacity not only precludes the efficient provision of public goods, but also limits the ability of local governments to enhance their own capabilities, by leaving localities to their own devices, decentralization may also play a role in preserving subnational territorial inequalities.

[87] Stewart 2005; Tilly 1999.

[88] Elsewhere in Latin America, subnational territories are similarly marked by distinct nation-building trajectories, which often accompanied and abetted the construction of racial cleavages. Beyond the cases of

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Third, our argument relies on mechanisms that are directly tied to subnational contexts, where boundaries tend to be more permeable than those at the national level. Nonetheless, future studies can examine whether, for example, stronger states tend to exhibit more restrictive immigration policies, which in turn systematically reduce the willingness and ability of certain groups to migrate to these regions,[89] confounding any association we might observe between diversity and public outcomes across countries.

## Conclusion

In this article, we present evidence that the observed negative association between the contemporary share of Afro-descendants in the population and public outcomes across Brazilian municipalities is in part due to a common antecedent factor: the uneven distribution of state capacity more than one hundred years ago. As a consequence of slavery, Afro-descendant populations were constrained in their movements across the territory and had to seek and settle in isolated areas with low state presence and capacity where they had a chance of forming viable frontier communities. As a result, the performance of these more remote majority-black localities today does not match that of their neighbors, which benefited from a stronger state infrastructure early on, despite displaying similar levels of government spending in the present.

Our findings speak to the literature that emphasizes the endogeneity of linguistic diversity and state capacity across countries.[90] In particular, our argument aligns with the idea that ethnic demographic patterns are deeply intertwined with and even a consequence of state strength. But it also complements this literature by elucidating the mechanisms that operate across subnational rather than national entities and in relation to racial (rather than linguistic) cleavages, which are arguably less susceptible to change.

Our results also speak to the literature on the legacies of slavery.[91] As indicated by our additional analyses, the long-term effects of slavery's

Jamaica and Cuba discussed in Appendix C of the supplementary material, other examples of the convergence of race and geography include the Andean highlands and Colombia's Chocó region, associated with the prevalence of indigenous and Afro-descendant populations, respectively. See, for example, Larson 2004; Wade 1995; Wightman 1990.

[89] Kustov 2019; Rosenberg 2019.

[90] Wimmer 2016.

[91] Acharya, Blackwell, and Sen 2016; Dell and Olken 2020; Nunn 2008.

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presence and intensity across space may be obscured by subsequent countervailing forces and by its broader indirect effects in nominally unaffected areas. In fact, some of the municipalities that had higher shares of slaves in the 1870s were also those that experienced larger inflows of immigration in the post-abolition period; and places where slave labor was almost nonexistent throughout the nineteenth century are those with some of the weakest public outcomes today. As a result, the historical shares of enslaved persons do not provide much analytical leverage to understand long-term outcomes in this case.

Our article is not without limitations. First, although we do not make any strong causal claims with regard to the role of state capacity in shaping demography, our measure of past state capacity may itself be endogenous. Although we corroborate our findings with additional indicators and measures, it is possible that local state capacity in 1920 (or even 1872) was itself affected by prior racial-demographic factors or by other local dynamics.[92] Second, and related, our data do not allow us to fully elucidate how past levels of state capacity persisted over time or to identify all the ways in which it affected racial demography patterns; a number of simultaneous mechanisms are likely at play.[93] Nonetheless, these limitations do not challenge our main argument regarding the systematically biased distribution of ethnic groups across space and the resulting pervasive endogeneity of ethnic demography and public outcomes.

Overall, this article shows that the current observed effects of demographic composition can be, at least in part, a byproduct of that composition's history. To that end, our findings call for a greater focus on the role of the state in creating and reinforcing historical disparities between ethnic and racial groups. Investigating the ways in which present outcomes depend upon past choices is therefore a critical task for future observational studies positing ethnic demography as a consequential determinant of public outcomes. Although our study does not rule out the possibility that ethnic demography has an independent effect on public goods provision, social capital, or other important outcomes, it highlights that group identity can itself be tied to distinct histories and experiences with the state.

## Supplementary Material

Supplementary material for this article can be found at https://doi.org/10.1017/S0043887121000241.

[92] Suryanarayan and White 2021; Pardelli 2019.

[93] As discussed above, there are numerous ways in which greater state capacity may have perpetuated and even exacerbated initial group-based disparities and related settlement patterns (e.g., through high taxes, land regulation, discouraged or subsidized immigration, or law enforcement mechanisms).

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## Data

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## Key Words

demographic change, historical legacies, public goods, race and ethnicity, state capacity

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